

THE
JOURNAL
OF
PARASITOLOGY

Founded by Henry Baldwin Ward

OFFICIAL ORGAN OF THE
AMERICAN SOCIETY OF PARASITOLOGISTS

EDITOR

AUSTIN J. MACINNIS

CONSULTANTS

Roy C. Anderson
Raymond M. Cable
William C. Campbell
Ralph Lichtenfels
Justus F. Mueller
Harley G. Sheffield

EDITORIAL BOARD

Calvin G. Beames, Jr.
Wilbur L. Bullock
Sue Carlisle
Ronald Fayer
Jacob K. Frenkel
Julian J. Jaffe
Araxie Kilejian
John S. Mackiewicz
Leo Margolis
Paul Meglitsch
David F. Mettrick
Louis Miller
Clayton R. Page, III
John F. Schacher
Gerhard A. Schad
Stewart C. Schell
Margaret A. Stirewalt
Kenneth S. Todd, Jr.
John E. Ubelaker
Jeffrey F. Williams
Conrad E. Yunker



VOLUME 65

1979

CONTENTS OF VOLUME 65

FEBRUARY 1979, NUMBER 1

Comparative Utilization of Pyruvate by <i>Brugia pahangi</i> , <i>Dipetalonema viteae</i> , and <i>Litomosoides carinii</i> . KEITH R. MIDDLETON and HOWARD J. SAZ	1
Carbohydrate Transport in <i>Moniliformis dubius</i> (Acanthocephala). III. Post-absorptive Fate of Fructose, Mannose, and Galactose. JANE A. STARLING and F. M. FISHER, JR.	8
Glycogen Synthase of <i>Hymenolepis diminuta</i> I. Allosteric Activation and Inhibition. PAUL A. MIED and ERNEST BUEDING	14
Glycogen Synthase of <i>Hymenolepis diminuta</i> II. Nutritional State, Interconversion of Forms, and Primer Glycogen Molecular Weight as Control Factors. PAUL A. MIED and ERNEST BUEDING	25
Effect of Mebendazole on the Larval Development of Three Hymenolepidid Cestodes. W. S. EVANS, B. GRAY, and MARIE NOVAK	31
Observations on Spermatogenesis and Inseminative Behavior of <i>Megalodiscus temperatus</i> Adults in Frogs. PAUL M. NOLLEN and JOHN L. PYNE	35
Studies on Encystment of <i>Echinostoma revolutum</i> Cercaria. BERNARD FRIED and MARGERY C. BENNETT	38
Behavioral Responses of <i>Schistosoma mansoni</i> Miracidia in Concentration Gradients of Snail-conditioned Water. THOMAS M. ROBERTS, SAMUEL WARD, and ELI CHERNIN	41
Effect of Duration and Intensity of Infection with <i>Echinostoma Audreyi</i> on Survival of <i>Lymnaea rubiginosa</i> Exposed to Copper Sulfate. JOHN T. SULLIVAN and JAMES R. PALMIERI	50
Solubilization of Antigens of <i>Fasciola hepatica</i> Which React with Antibodies to <i>Schistosoma mansoni</i> . GEORGE V. HILLYER, RONALD P. PELLEY, and ANA del LLANO de DIAZ	55
<i>Hymenolepis nana</i> : Intestinal Tissue Phase in Actively Immunized Mice. W. FRIEDBERG, B. R. NEAS, D. N. FAULKNER and C. C. CONGDON	61
Association of Autoantibodies with Anemia, Splenomegaly, and Glomerulonephritis in Experimental African Trypanosomiasis. WILLIAM J. RICKMAN and HERBERT W. COX	65
Initiation of Development In Vitro of Third-stage <i>Nippostrongylus brasiliensis</i> . THOMAS P. BONNER	74
In Vitro Development of <i>Trichostrongylus axei</i> , from Infective Larvae to Young Adults. FRANK W. DOUVRES	79
Experimental Life Cycle of <i>Ascaridia columbae</i> in Intravenously Infected Pigeons, <i>Columba livia</i> . ROY D. MELENDEZ and WILLIAM D. LINDQUIST	85
Development of <i>Dipetalonema gracile</i> and <i>D. caudispina</i> to the Infective Stage in <i>Culicoides hollensis</i> . MARK L. EBERHARD, ROBERT C. LOWRIE, JR., and THOMAS C. ORIHEL	89
Morphology of the Advanced-stage Larva of <i>Eustrongylides wenrichi</i> Canavan 1929, Occurring Encapsulated in the Tissues of <i>Amphiuma</i> in Louisiana. TARLOCHAN S. PANESAR and PAUL C. BEAVER	96
<i>Capillaria hepatica</i> (Bancroft) in Select Rat Populations of Hartford, Connecticut, with Possible Public Health Implications. GERALD CONLOGUE, WILLIAM FOREYT, MICHAEL ADESS, and HARVEY LEVINE	105
Freeze-fracture Study of the Cell Membrane of <i>Herpetomonas samuelepsisaui</i> . WANDERLEY de SOUZA, BIBIANA CHÁVEZ, and ADOLFO MARTINEZ-PALOMO	109
Meiosis and its Implications in the Life Cycles of <i>Ambylospora</i> and <i>Parathelohania</i> (<i>Microspora</i>). E. I. HAZARD, T. G. ANDREADIS, D. J. JOSLYN, and E. A. ELLIS	117
Animal Infectivity of <i>Encephalitozoon cuniculi</i> . JOHN A. SHADDUCK, WILLIAM T. WATSON, STEVEN P. PAKES, and ANN CALI	123
Hemolymph of <i>Anopheles stephensi</i> from Uninfected and <i>Plasmodium berghei</i> -infected Mosquitoes. 2. Free Amino Acids. STEPHEN R. MACK, STANLEY SAMUELS, and JEROME P. VANDERBERG	130
The Site of Action of the Anticoccidial Salinomycin (Coxistac®). LARRY R. CHAPPEL	137
Experimental <i>Babesia microti</i> Infections in Non-splenectomized <i>Macaca mulatta</i> . TRENTON K. RUEBUSH II, WILLIAM E. COLLINS, GEORGE R. HEALY, and McWILSON WARREN	144
Hematozoa from Southern African Vultures, with a Description of <i>Haemoproteus janovyi</i> sp. n. ELLIS C. GREINER and PETER J. MUNDY	147
Morphology and Life History of <i>Alaria mustelae</i> Bosma 1931 (Trematoda: Diplostomatidae) from Minnesota Mustelids. ALLEN D. JOHNSON	154
Geographic and Host-related Variation among Species of <i>Fessisentis</i> (Acanthocephala) and Confirmation of the <i>Fessisentis fessus</i> Life Cycle. RICHARD L. BUCKNER and BRENT B. NICKOL	161
Ecology of <i>Mediorhynchus centurorum</i> Host Specificity. JEROME A. JACKSON and BRENT B. NICKOL	167
Observations on the Subgenus <i>Argas</i> (Ixodoidea: Argasidae: Argas). 17. <i>Argas (A.) polonicus</i> sp. n. Parasitizing Domestic Pigeons in Krakow, Poland. KRZYSZTOF SIUDA, HARRY HOOGSTRAAL, CARLETON M. CLIFFORD, and HILDA Y. WASSEF	170

RESEARCH NOTES

An Inexpensive Source of Carbon Dioxide for the Excystation of <i>Eimeria</i> Oocysts.	GARY LOREN McCALLISTER	24
The Muskrat as an Intermediate Host of <i>Echinococcus multilocularis</i> in Montana.	KATHY L. EASTMAN and DAVID E. WORLEY	34
Hydatid Disease in Sheep of Mymensingh District, Bangladesh.	A. W. M. SHAMSUL ISLAM	37
Urea Cycle Enzymes in Wild and Aposymbiotic Strains of <i>Blastocerithidia culicis</i> .	SUELY GALINARI and E. PLESSMANN CAMARGO	88
<i>Trichinella spiralis</i> in Raccoons (<i>Procyon lotor</i>) of Tennessee.	ANTHONY L. NEWSOME and WALTER E. WILHELM	108
Nomenclature of <i>Herpetomonas samuelpessoai</i> .	NORMAN D. LEVINE	116
A Microsporidian Contaminant of a Nonhuman Primate Cell Culture: Ultrastructural Comparison with <i>Nosema connori</i> .	JOHN A. SHADDUCK, GARNETT KELSOE, and RONALD J. HELMKE	185
Effect of Purification by DEAE-Cellulose Column on Infectivity of <i>Trypanosoma cruzi</i> Blood Forms.	FERNANDO V. VILLALTA and WILSON LEON	188
Cultivation of Pathogenic and Nonpathogenic Free-living Amebae.	RAY T. M. CURSONS, JENNI J. DONALD, TIM J. BROWN, and ELIZABETH A. KEYS	189
ANNOUNCEMENTS		
International Symposium on Health Policy in Developing Countries		49
Second International Congress of Systematic and Evolutionary Biology		78
Malaria and Babesiosis Conference		143
Instructions to Authors and Notes on Editorial Policies		192
BOOK REVIEW		
Haematzoa in the Birds of Eastern and Southern Asia, by H. Elliot McClure, Pilai Poonswad, Ellis C. Greiner, and Marshall Laird	REGINALD D. MANWELL	7
IN MEMORIAM		
Theodor von Brand: A Tribute	EUGENE C. WEINBACH and ERNEST BUEDING	182

APRIL 1979, NUMBER 2

Lipids of <i>Leishmania</i> Promastigotes	D. H. BEACH, G. G. HOLZ, JR., and G. E. ANEKWE	203
Hemolymph of <i>Anopheles stephensi</i> from Noninfected and <i>Plasmodium berghei</i> -infected Mosquitoes. 3. Carbohydrates	STEPHEN R. MACK, STANLEY SAMUELS, and JEROME P. VANDERBERG	217
Isolation of <i>Plasmodium berghei</i> by Hemolysin Lysis of Infected Erythrocytes and Evidence for a Parasite Hexokinase	M. B. COLEMAN, M. H. STEINBERG, F. J. OELSHLEGEL, A. D. LARSON, and L. T. HART	222
10-Formyltetrahydrofolate Synthetase Activity in Normal and <i>Brugia pahangi</i> -infected <i>Aedes aegypti</i>	J. J. JAFFE and L. R. CHRIN	226
<i>Eimeria dispersa</i> , <i>E. adenoeides</i> , and <i>E. meleagriditis</i> : Intestinal Mucosal Disruption in Turkeys as Seen with Scanning Electron Microscopy	P. A. MADDEN and M. D. RUFF	234
Thin-layer Chromatographic Analysis of Phospholipids in <i>Echinostoma revolutum</i> (Trematoda) Adults	BERNARD FRIED and IRWIN L. SHAPIRO	243
Ultrastructure of the Rectum of Infective-stage <i>Wuchereria bancrofti</i> (Nematoda: Filarioidea)	ALBERT L. VINCENT, STEPHEN P. FROMMES, and LAWRENCE R. ASH	246
Histopathology of Hepatic and Pulmonary Granulomata Experimentally Induced with Eggs of <i>Schistosoma mansoni</i>	LUKE D. EDUNGBOLA and EVERETT L. SCHILLER	253
Fine Structure of a Racemose Cysticercus from Human Brain	MARIETTA VOGE and W. JANN BROWN	262
Susceptibility of Owl Monkeys to <i>Plasmodium falciparum</i> Infection in Relation to Location of Origin, Phenotype, and Karyotype	D. W. TAYLOR and W. A. SIDDIQUI	267
Two New Species of Coccidia, <i>Eimeria leucuri</i> and <i>E. oreocetes</i> (Protozoa: Eimeriidae), in Grouse from Colorado	ROBERT M. STABLER, A. G. HASKINS, NANCY J. KITZMILLER, O. W. OLSEN, and CLAIT E. BRAUN	272
<i>Leishmania herrerai</i> sp. n. from Sloths and Sandflies of Costa Rica	RODRIGO ZELEDÓN, CARLOS PONCE, and JUAN MURILLO	275
<i>Apteragia pursglovei</i> sp. n. (Trichostrongyloidea: Trichostrongylidae) from the White-tailed Deer, <i>Odocoileus virginianus</i>	WILLIAM R. DAVIDSON and ANNIE K. PRESTWOOD	280
The Limiting Effect of Host Availability for the Immature Stages on Population Growth in Economically Important Ixodid Ticks	R. A. I. NORVAL	285
Effects of Some Factors on the Susceptibility of <i>Peromyscus leucopus</i> to Infestation by Larvae of <i>Cuterebra fontinella</i> (Diptera: Cuterebridae)	RICHARD E. GINGRICH	288

SOCIETY BUSINESS

Introducing President Jacobs	PAUL P. WEINSTEIN	195
Presidential Address	LEON JACOBS	195
Sixty-eighth Council Meeting Minutes	CLAYTON R PAGE, III	293
Fifty-third Annual Business Meeting Minutes	CLAYTON R PAGE, III	308
Presentation of the Henry Baldwin Ward Medal	JOHN C. HOLMES	314
Acceptance of Henry Baldwin Ward Medal	RONALD FAYER	315

RESEARCH NOTES

Anthelmintic Activity of <i>Sch 20350</i> in Dogs	DAVID LOEBENBERG, M. MEHDI NAFISSI-V., BARRY ANTONACCI and J. ALLAN WAITZ	233
First Report of <i>Angiostrongylus costaricensis</i> Morera and Céspedes 1971 in the United States	JOHN E. UBELAKER and N. MAX HALL	307
Modification of a New Technique for Immunohistochemical Localization of Cell Surface Components	R. E. MILLER and W. M. KEMP	318
First Reported Occurrence of <i>Salmincola californiensis</i> (Dana 1852) (Copepoda: Lernaeopodidae) East of the Rocky Mountains	JOSEPH K. BUTTNER and ROY C. HEIDINGER	320
Does <i>Parahistomonas wenrichi</i> Affect the Fertility of <i>Heterakis gallinarum</i> ?	P. E. M. FINE	320
Crowding Effect on Fecundity of <i>Argas (Persicargas) arboreus</i> (Ixodoidea: Argasidae)	GALILA M. KHALIL	321
Correlation of Leech Infestation and Eosinophilia in Alligators	ARMAND B. GLASSMAN, THOMAS W. HOLBROOK, and CAROL E. BENNETT	323
Prevalence of Sporozoites of <i>Leucocytozoon smithi</i> in Florida Blackflies	ELLIS C. GREINER and DONALD J. FORRESTER	324
A Technique for Periodic Collection of Emerging Cercariae from Snail Hosts	STUART M. MCILRAITH	326
Experimental Infection of Rabbits with Meningeal Worm	VICTOR F. NETTLES and ANNIE K. PRESTWOOD	327
Fine Structure of the Excretory Bladder Epithelium in Adult <i>Ochetosoma aniarum</i> (Leidy 1891)	EDWIN C. POWELL	328
Prevalence of <i>Toxoplasma gondii</i> Infection in Horses	NAHAD W. AL-KHALIDI and J. P. DUBEY	331
Nematode Length and Preservatives, with a Method for Determining the Length of Live Specimens	H.-P. FAGERHOLM	334

BOOK REVIEWS

Surveillance and Collection of Arthropods of Veterinary Importance, edited by Ralph A. Bram	A. RALPH BARR	216
Avian Coccidiosis, edited by P. L. Long, K. N. Boorman, and B. M. Freeman	MICHAEL D. RUFF	242
Manual of Standardized Methods for Veterinary Microbiology, edited by George E. Cottral	RONALD D. SCHULTZ	245
Keith County Journal, by John Janovy, Jr.	DONALD E. GILBERTSON	271
Medizinische Mikrobiologie, Immunologie und Epidemiologie, edited by Georg Wildfähr and Wolfgang Wildfähr	J. K. FRENKEL	274
Pathology of Tropical and Extraordinary Diseases, an Atlas, edited by Chapman H. Binford, M.D., and Daniel H. Connor, M.D.	JUSTUS F. MUELLER	317

OBITUARY NOTICE

Donald J. Ameel		266
-----------------	--	-----

IN MEMORIAM

In Memoriam: James Scott McDaniel	GERALD W. ESCH	292
-----------------------------------	----------------	-----

ANNOUNCEMENT

Note from the Editor		336
----------------------	--	-----

JUNE 1979, NUMBER 3

Recent Advances in the Immunology of Cestode Infections	JEFFREY F. WILLIAMS	337
Argentophilic Papillae of <i>Schistosomatium douthitti</i> Cercariae (Trematoda: Schistosomatidae)	GUNDY B. KNOS and ROBERT B. SHORT	350
Transintegumental Uptake of Metabolic Substrates in Male and Female <i>Schistosoma mansoni</i>	EAIN M. CORNFORD and WILLIAM H. OLDENDORF	357
Quantitative Studies of the Mutagenesis of <i>Toxoplasma gondii</i>	E. R. PFEFFERKORN AND LORRAINE C. PFEFFERKORN	364

Comparison of Carbon and Nitrogen Content of Infected and Uninfected Snails, <i>Succinea ovalis</i> , and the Trematode <i>Leucochloridium variae</i> ALBERT J. BURKY and DANIEL J. HORNBACK	371
A New Species of <i>Breinlia</i> (<i>Breinlia</i>) (Nematoda: Filarioidea) from the South Indian Flying Squirrel <i>Petaurus philippensis</i> (Elliot) JOSEPH T. CHOWATTUKUNNEL and J. H. ESSLINGER	375
Studies on the <i>Onchocerca</i> (Nematoda: Filarioidea) Found in Cattle in the United States. I. Systematics of <i>O. gutturosa</i> and <i>O. lienalis</i> with a Description of <i>O. stilesi</i> sp. n. MARK L. EBERHARD	379
Redescription of <i>Camallanus ancylocladus</i> Ward and Magath 1916 (Nematoda: Camallanidae) from Freshwater Fishes of North America M. R. BAKER	389
<i>Eimeria azul</i> sp. n. (Protozoa: Eimeriidae) from the Eastern Cottontail, <i>Sylvilagus floridanus</i> , in Pennsylvania J. P. WIGGINS and H. ROTHENBACHER	393
The <i>Ornithodoros</i> (<i>Alectorobius</i>) <i>capensis</i> Group (Acarina: Ixodoidea: Argasidae) of the Palearctic and Oriental Regions. <i>O. (A.) coniceps</i> Identity, Bird and Mammal Hosts, Virus Infections, and Distribution in Europe, Africa, and Asia HARRY HOOGSTRAAL, CARLETON M. CLIFFORD, and JAMES E. KEIRANS	395
A Malarial Parasite of Australian Skinks, <i>Plasmodium mackerrasae</i> sp. n. SAM R. TELFORD, JR.	409
Rapid, Large-scale Isolation of <i>Plasmodium berghei</i> Sporozoites from Infected Mosquitoes N. D. PACHECO, C. P. A. STROME, F. MITCHELL, M. P. BAWDEN, and R. L. BEAUDOIN	414
Synchronization of <i>Plasmodium falciparum</i> Erythrocytic Stages in Culture CHRIS LAMBROS and JEROME P. VANDERBERG	418
Rapid Detection of Malaria and Other Bloodstream Parasites by Fluorescence Microscopy with 4'6 diamidino-2-phenylindole (DAPI) BRADLEY C. HYMAN and AUSTIN J. MACINNIS	421
Antibody to Fibrinogen/Fibrin Products (Anti-F) in Malaria, Babesiosis, and Trypanosomiasis of Rodents SANTI THOONGSUWAN, HERBERT W. COX, and WILLIAM J. RICKMAN	426
Susceptibility of Five Strains of Mice to <i>Babesia microti</i> of Human Origin MARY J. RUEBUSH and WILLIAM L. HANSON	430
Scanning Electron Microscopy of Ciliary Zones of the Ciliate Protozoa in the Large Intestine of the Horse SOICHI IMAI, KOMEI OZEKI, and JINKICHI FUJITA	434
<i>Trichinella spiralis</i> : An Intracellular Parasite in the Intestinal Phase K. A. WRIGHT	441
The Effects of Miracidial Aging and Dilution of Snail-conditioned Water on Responses of Miracidia of <i>Megalodiscus temperatus</i> DARREL P. PRECHEL and PAUL M. NOLLEN	446
Coccidia of Wombats: Correction of Host-parasite Relationships. <i>Eimeria wombati</i> (Giruth and Bull, 1912) comb. nov. and <i>Eimeria ursini</i> Supperer, 1957 from the Hairy-nosed Wombat and <i>Eimeria arundeli</i> sp. n. from the Common Wombat I. K. BARKER, B. L. MUNDAY, and P. J. A. PRESIDENTE	451
<i>Diclidophora embiotocae</i> sp. n. (Monogenea, Diclidophoridae), a Parasite of Embiotocid Fishes of Oregon A. WARREN HANSON	457
RESEARCH NOTES	
Immune Response of Monkeys (<i>Macaca mulatta</i>) to Amebic Antigens V. K. VINAYAK, S. C. SEHGAL, SUNITA SAWHNEY, NIRPAL SEHMI, and B. R. JINDAL	407
Parasites of Grey Squirrels in Cheshire, England D. BRITT and D. H. MOLYNEUX	408
In Vitro Growth of Racemose Cysticercus of <i>Taenia solium</i> from Human Brain DAVID A. BRUCKNER	450
Longevity and Infectivity of Somatic Larvae of <i>Ancylostoma caninum</i> in Guinea and Swine W. M. STONE, T. B. STEWART, and FRANCES SMITH	460
The Histochemical Demonstration of Alkaline Phosphatase Activity in <i>Porocephalus crotali</i> Humboldt 1811 (Pentastomida) PATRICK D. HOLLIS	461
African Baboon (<i>Papio cynocephalus</i>) Infected With Three Strains of <i>Schistosoma mansoni</i> ROBERT E. KUNTZ, TAO-CHENG HUANG, and JERRY A. MOORE	463
<i>Polychromophilus</i> from Southeastern Brown Bats (<i>Myotis austroriparius</i>) in North-central Florida GARRY W. FOSTER	465
Respiration of <i>Tritrichomonas foetus</i> : Absence of Detectable Cytochromes DAVID LLOYD, DONALD G. LINDMARK, and MIKLÓS MÜLLER	466
Migration of Sporozoites of <i>Eimeria falciformis</i> var <i>pragensis</i> from the Absorptive to the Crypt Epithelium of the Colon G. M. MESFIN and J. E. C. BELLAMY	469
Somatic Chromosomes of <i>Schistosoma mansoni</i> ROBERT B. SHORT, MARGARET Y. MENZEL, and SEN PATHAK	471
Lack of Obligatory Association Between Mutagenic and Antitrichomonal Effects of Metronidazole DAVID A. BRUCKNER, ERNEST BUEDING, and MARIETTA VOGE	473
BOOK REVIEWS	
Methods of Cultivating Parasites in vitro, edited by Angela E. R. Taylor and John R. Baker GORDON H. BALL	370
Chemistry and Specifications of Pesticides LESLIE S. UHAZY	374
The Dynamics of Arthropod Predator-Prey Systems, by Michael P. Hassell ARMAND M. KURIS	475
Rodent Malaria, edited by R. Killick-Kendrick and W. Peters REGINALD D. MANWELL	476

Proceedings of the Heartworm Symposium '77, edited by H. C. Morgan, G. F. Otto, R. F. Jackson, and C. H. Courtney JOHN F. SCHACHER	478
Tropical Medicine and Parasitology, Classical Investigations, edited by B. H. Kean, Kenneth E. Mott, and Adair Russell JUSTUS F. MUELLER	479

AUGUST 1979, NUMBER 4

IMMUNOLOGY

<i>Fasciola hepatica</i> in Rats: Transfer of Immunity by Serum and Cells from Infected to <i>F. hepatica</i> Naive Animals G. R. RAJASEKARIAH and M. J. HOWELL	481
-----------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

Isolation and Characterization of Surface Antigens from <i>Schistosoma mansoni</i> . I. Evaluation of Techniques for Radioisotope Labeling of Surface Proteins from Adult Worms EUGENE G. HAYUNGA, K. DARWIN MURRELL, DAVID W. TAYLOR, and WILTON E. VANNIER	488
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

Isolation and Characterization of Surface Antigens from <i>Schistosoma mansoni</i> . II. Antigenicity of Radiolabeled Proteins from Adult Worms EUGENE G. HAYUNGA, K. DARWIN MURRELL, DAVID W. TAYLOR, and WILTON E. VANNIER	497
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

Antigenic Make-up of <i>Trypanosoma cruzi</i> Culture Forms: Identification of a Specific Component D. AFCHAIN, D. LeRAY, J. FRUIT, and A. CAPRON	507
---------------------------------------------------------------------------------------------------------------------------------------------------	-----

Adoptive Transfer of Protective Immunity in Experimental Schistosomiasis in the Mouse SHIRLEY E. MADDISON and IRVING G. KAGAN	515
-------------------------------------------------------------------------------------------------------------------------------	-----

BIOCHEMISTRY

The Purine Phosphoribosyltransferases of <i>Crithidia fasciculata</i> G. W. KIDDER, LINDA L. NOLAN, and VIRGINIA C. DEWEY	520
---------------------------------------------------------------------------------------------------------------------------	-----

The Use of Sodium Taurodeoxycholate for Excystation of <i>Eimeria tenella</i> Sporozoites W. H. PATTON and G. P. BRIGMAN	526
--------------------------------------------------------------------------------------------------------------------------	-----

Involvement of Calcium and Cyclic AMP in Controlling Ixodid Tick Salivary Fluid Secretion GLEN R. NEEDHAM and JOHN R. SAUER	531
-----------------------------------------------------------------------------------------------------------------------------	-----

Acidic Thiol Proteinase Activity of <i>Schistosoma mansoni</i> Egg Extracts HAROLD L. ASCH and MARC H. DRESDEN	543
----------------------------------------------------------------------------------------------------------------	-----

De Novo Synthesis of Methionine in Normal and <i>Brugia</i> -infected <i>Aedes aegypti</i> J. J. JAFFE and L. R. CHRIN	550
------------------------------------------------------------------------------------------------------------------------	-----

A Pharmacokinetic Basis for the Efficacy of 4-Amino-6-trichloroethenyl-1,3-benzenedisulfonamide Against <i>Fasciola hepatica</i> in the Rat M. D. SCHULMAN, D. VALENTINO, S. CIFELLI, R. LANG, and D. A. OSTLIND	555
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

ULTRASTRUCTURE

Fine Structure of the Tegument of <i>Mesocestoides</i> Tetrathyridia by Scanning and Transmission Electron Microscopy M. VOGE, F. SOGANDARES-BERNAL, and J. H. MARTIN	562
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

A Unicellular Endocrine Gland in Cestodes ROBERT D. SPECIAN, RICHARD D. LUMSDEN, JOHN E. UBELAKER, and VENITA F. ALLISON	569
--------------------------------------------------------------------------------------------------------------------------	-----

Surface Ultrastructure of the Tegument of <i>Clonorchis sinensis</i> Newly Excysted Juveniles and Adult Worms TAKAHIRO FUJINO, YOICHI ISHII, and DONG WIK CHOI	579
----------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

EXPERIMENTAL

Further Studies on the Development of Gamonts and Oocysts of <i>Eimeria magna</i> in Cultured Cells CLARENCE A. SPEER	591
-----------------------------------------------------------------------------------------------------------------------	-----

Intraerythrocytic Parasites in Rodent Populations of Connecticut: <i>Babesia</i> and <i>Grahamella</i> Species JOHN F. ANDERSON, LOUIS A. MAGNARELLI, and JOHANN KURZ	599
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

Effect of Sequential Infection with <i>Plasmodium vivax</i> and <i>P. falciparum</i> in the <i>Aotus trivirgatus</i> Monkey WILLIAM E. COLLINS, McWILSON WARREN, JIMMIE C. SKINNER, BETTYE B. RICHARDSON, and THOMAS S. KEARSE	605
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

Infection and Transmission Studies with <i>Plasmodium simiovale</i> in the <i>Macaca mulatta</i> Monkey WILLIAM E. COLLINS and PETER G. CONTACOS	609
--------------------------------------------------------------------------------------------------------------------------------------------------	-----

Laboratory Infection of Blackflies (Simuliidae) and Midges (Chironomidae) by the Mosquito Mermithid, <i>Romanomermis culicivora</i> GEORGE O. POINAR, JR., ROBERTA HESS, EDER HANSEN, and JAMES W. HANSEN	613
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

ECOLOGY

Metacercariae of <i>Ornithodiplostomum ptychocheilus</i> (Faust, 1917) Dubois, 1936 Encysted in the Brains and Viscera of Red-sided Shiners from the Clark-fork and Bitterroot Rivers of Montana: An Analysis of the Infected Hosts F. SOGANDARES-BERNAL, H. J. HIETALA, and R. F. GUNST	616
The Distribution and Abundance of Enteric Helminths in <i>Chrysemys s. scripta</i> from Various Habitats on the Savannah River Plant in South Carolina GERALD W. ESCH, J. WHITFIELD GIBBONS, and JOSEPH E. BOURQUE	624
Species Diversity of Helminth Parasites in <i>Chrysemys s. scripta</i> from a Variety of Habitats in South Carolina GERALD W. ESCH, J. WHITFIELD GIBBONS, and JOSEPH E. BOURQUE	633
Incidence of Infection and Host Specificity of <i>Cuterebra tenebrosa</i> in Bushy-tailed Wood Rats (<i>Neotoma cinerea</i>) from Central Washington CRAIG R. BAIRD	639

TAXONOMY

Helminths of Shorebirds from the Texas Gulfcoast. I. Digenetic Trematodes from the Long-billed Curlew, <i>Numenius americanus</i> NORMAN O. DRONEN, JR. and JANE E. BADLEY	645
Feather Mites of the Greater Sandhill Crane W. T. ATYEO and R. M. WINDINGSTAD	650
<i>Neottialges (Pelecanectes) ibisicola</i> sp. n. (Acar: Hypoderidae) from the Subcutaneous Tissues of the White-faced Ibis, <i>Plegadis chihi</i> (Giconiformes: Threskiornithidae) VALERIE E. YOUNG and DANNY B. PENCE	659
<i>Serpentisaccus magnifica</i> gen. et sp. n., a Copepod (Caligoida: Lernaeoceridae) from the Firefish, <i>Nemateleotris magnifica</i> Fowler, 1938 GEORGE C. BLASIOLA, JR.	662

RESEARCH NOTES

Two Species of Trematodes Causing Nasal Lesions in Dugongs IWAN T. BUDIARSO, JAMES R. PALMIERI, GEORGE D. IMES, JR., JOHN F. ALLEN, and MARTA M. LEPES	568
Chromosomes of <i>Cyclocoelum oculatum</i> (Trematoda: Cyclocoelidae) STEPHEN J. TAFT and WILLIAM H. LeGRANDE	666
Altered Color, Behavior and Predation Susceptibility of the Isopod <i>Asellus intermedius</i> Infected with <i>Acanthocephalus dirus</i> JOSEPH W. CAMP and HARRY W. HUIZINGA	667
Cellular Na ⁺ and ATP Effects on Galactose Influx by Tissue Slices of <i>Hymenolepis diminuta</i> R. B. PODESTA	669
Observations on the Feeding Habits of Some Larval Fleas (Siphonaptera) ALLEN H. BENTON, MICHAEL SURMAN, and WILLIAM L. KRINSKY	671

BOOK REVIEWS

Fine Structure of Parasitic Protozoa: An Atlas of Micrographs, Drawings, and Diagrams, by E. Scholtyseck JEROME J. PAULIN	549
Atlas of Medical Parasitology, by Vigar Zaman MARIETTA VOGE	561

OCTOBER 1979, NUMBER 5

IMMUNOLOGY

Evidence for Reappearance of <i>Trypanosoma brucei</i> Variable Antigen Types in Relapse Populations A. J. MUSOKE, A. F. BARBET, and G. E. ROELANTS	673
Use of Immunologic Techniques to Detect Chemotherapeutic Success in Infections with <i>Fasciola hepatica</i> II. The Enzyme Linked Immunosorbent Assay in Infected Rats and Rabbits GEORGE V. HILLYER and NOEMI SANTIAGO DE WEIL	680
Oral Immunization of Mice with Metabolic Antigens of <i>Trichinella spiralis</i> Larvae: Effects on the Kinetics of Intestinal Cell Response Including Mast Cells and Polymorphonuclear Eosinophils G. TRONCHIN, E. DUTOIT, A. VERNES, and J. BIGUET	685
Field Study of the Relationship Between Skin-Sensitizing Antibody Production in the Cottontail Rabbit, <i>Sylvilagus flordanus</i> , and Infestation by the Rabbit Tick, <i>Haemaphysalis leporispalustris</i> (Acar: Ixodidae) MICHAEL J. MCGOWAN, JOSEPH H. CAMIN, and RON W. McNEW	692

BIOCHEMISTRY

Cell and Mitochondria Respiration of <i>Naegleria fowleri</i>	R. R. WEIK and D. T. JOHN	700
Fascioliasis: Similarities of the Anemia in Rats to that Produced by Infused Proline	HADAR ISSEROFF, ROBERT N. SPENGLER, and DAVID R. CHARNOCK	709
Isolation and Partial Biochemical Characterization of the Brush Border Plasma Membrane from the Cestode, <i>Hymenolepis diminuta</i>	WILLIAM J. KNOWLES and JOHN ADAMS OAKS	715
Incorporation of Radioactive Precursors into Filarial Larvae of <i>Brugia</i> Developing in Susceptible and Refractory Mosquitoes	M. G. SIMPSON and B. R. LAURENCE	732

ULTRASTRUCTURE

Aspects of the Sporogonic Development of <i>Leucocytozoon tawaki</i> of the Fiordland Crested Penguin in its Primary Vector, <i>Austrosimilium ungulatum</i> : An Ultrastructural Study	SHERWIN S. DESSER and FRANCES (BERTHA) ALLISON	737
Changes in the Structure of <i>Nippostrongylus brasiliensis</i> Intestinal Cells during Development from the Free-living to the Parasitic Stages	THOMAS P. BONNER	745

EXPERIMENTAL

<i>Trypanosoma brucei</i> : In Vitro Propagation of Metacyclic Forms Derived from the Salivary Glands of <i>Glossina morsitans</i>	M. NYINDO, N. PATEL, N. DARJI, and T. K. GOLDER	751
Comparative Infectivity for Calves of Oocysts of Feline Coccidia: <i>Besnoitia</i> , <i>Hammondia</i> , <i>Cystoisospora</i> , <i>Sarcocystis</i> , and <i>Toxoplasma</i>	R. FAYER and J. K. FRENKEL	756
Studies on the West African I Strain of <i>Plasmodium falciparum</i> in <i>aotus trivirgatus</i> Monkeys	WILLIAM E. COLLINS, MCWILSON WARREN, JIMMIE C. SKINNER, BETTYE B. RICHARDSON, and WILLIAM CHIN	763
Pathogenicity of Axenically Cultivated <i>Entamoeba histolytica</i> , Strain 200:NIH, in the Hamster	E. GHADIRIAN and E. MEEROVITCH	768
The Longevity and Hatchability of <i>Philophthalmus megalurus</i> and <i>P. gralli</i> Miracidia in Different Environmental Conditions	PAUL M. NOLLEN, AHMAD SAMIZADEH-YAZD, and DANIEL E. SNYDER	772
Development, Survival, and Oviposition of the Rabbit Tick, <i>Haemaphysalis leporispalustris</i> (Packard) (Acari: Ixodidae), at Constant Temperatures	A. CAMPBELL and M. V. GLINES	777

TAXONOMY

<i>Haemaphysalis (Allophysalis) kopetdagica</i> : Identity and Discovery of Each Feeding Stage on the Wild Goat in Northern Iran (Ixodoidea: Ixodidae)	HARRY HOOGSTRAAL and HILDA Y. WASSEF	783
<i>Rallinyyssus sorae</i> sp. n. (Acar: Dermnyssidae: Rhinonyssinae) from the Nasal Passages of the Sora, <i>Porzana carolina</i> (Aves: Rallidae)	DANNY B. PENCE and VALERIE E. YOUNG	791
A New Genus of Cyclopoid Copepod (Chondracanthidae) Parasitic on Halibut from California Inshore Waters	MASAHIRO DOJIRI and PENNY SUE PERKINS	794
The Parasitic Coelenterate, <i>Poly podium hydriiforme</i> Usov, from the Eggs of the American Acipenseriform, <i>Polyodon spathula</i>	E. V. RAIKOVA, V. CH. SUPPES, and G. L. HOFFMAN	804
<i>Procyonostrostrongylus muelleri</i> gen. et sp. n. (Metastrongyloidea: Angiostrostrongylidae) from the Raccoon (<i>Procyon l. lotor</i>)	ROY C. ANDERSON, ANNIE K. PRESTWOOD, and UTA R. STRELIVE	811

RESEARCH NOTES

Technique for the Separation of <i>Sarcocystis</i> from Cardiac Muscle	MILES B. MARKUS	699
Tungiasis (<i>Tunga penetrans</i>) in Utah	WILLIAM BROTHERS and RICHARD HECKMANN	782
Isolation of Pure Metacyclic Trypomastigotes of <i>Trypanosoma cruzi</i> from Triatomine Bugs by Use of a DEAE-Cellulose Column	N. J. ALVARENGA and Z. BRENER	814
A Simple Medium for In Vitro Culture of <i>Trichomonas vaginalis</i>	D. K. CHATTERJEE and D. K. RAY	815
Transmission of <i>Babesia microti</i> Using Various Species of Ticks as Vectors	MAURO R. OLIVEIRA and JULIUS P. KREIER	816
Vaccination of Rats Against <i>Fasciola hepatica</i>	M. J. HOWELL	817
Ammonia Excretion by Planorbid Snails—A Possible Mechanism for Host Selection by Schistosome Miracidia	P. R. MASON	819

Three Consequences of Infection With <i>Nematospirodes dubius</i> in Three Inbred Strains of Mice and S. J. PROWSE	G. F. MITCHELL	820
Anti-Pinworm Activity of Sch 23154 DAVID LOEBENBERG, M. MEHDI NAFISSI-V., BARRY ANTONACCI, and J. ALLAN WAITZ		823
Efficacy of Lasalocid Against Coccidia in Cattle PAUL R. FITZGERALD and M. E. MANSFIELD		824
Changes in Vascular Smooth Muscle Contractility Associated with <i>Trypanosoma brucei</i> Infections in Rats C. A. GREER, G. D. CAIN, and B. A. SCHOTTELius		825
The Use of Fixed-tissue Sections to Determine Antibodies to <i>Onchocerca volvulus</i> in a Fluorescent Antibody Test WILLIAM E. COLLINS and JIMMIE C. SKINNER		827
Influence of Mouse Strain on Induction of Resistance with Irradiated <i>Schistosoma mansoni</i> Cercariae K. D. MURRELL, S. CLARK, D. A. DEAN, and W. E. VANNIER		829
On the Possible Role of Earthworms in the Transmission of <i>Ostertagia ostertagi</i> Third-stage Larvae from Feces to Soil JØRN GRØNVOLD		831
BOOK REVIEWS		
Systematics of the Microsporidia, by Victor Sprague. Volume 2 of Comparative Pathobiology, edited by L. A. Bulla, Jr. and T. C. Cheng E. I. HAZARD		714
Fish Pathology, edited by Ron J. Roberts GLENN L. HOFFMAN		731
ANNOUNCEMENTS		
Sixth International Congress of Protozoology		679
Reprinting of "Population Biology of Disease"		691
International Symposium on Genetic Control		708
Graduate Training Opportunities Booklet		782
Nominees Sought for the 1980 Edward W. Browning Award		803
OBITUARY NOTICES		
THEODOSIA M. BLEWETT WELCH		684
ROBERT RUBIN		782
VIOLA LOUISE SOMMERMEYER		793
DECEMBER 1979, NUMBER 6		
BIOCHEMISTRY		
Purification, Characterization, and the Presumptive Role of Fumarase in the Energy Metabolism of <i>Ascaris suum</i> . D. MICHAEL PAYNE, DAVID G. POWLEY, and BEN G. HARRIS		833
<i>Hymenolepis diminuta</i> : Na ⁺ -dependent and Na ⁺ -independent Components of Neutral Amino Acid Transport. P. E. LUSSIER, R. B. PODESTA, and D. F. METTRICK		842
The Effects of Dietary Carbohydrate on Larval Development and Lipogenesis in the Parasite, <i>Exeristes roborator</i> (Fabricius) (Hymenoptera: Ichneumonidae). S. N. THOMPSON		849
IMMUNOLOGY		
A Sero-epidemiological Study of Onchocerciasis with the Indirect Hemagglutination Test. TERUAKI IKEDA, YOSHIKI AOKI, ISAO TADA, M. M. RECINOS C., J. O. OCHOA A., and P. A. MOLINA		855
Bge Snail Cell-line Antigens: Ineffectiveness as Antischistosomal Vaccine in Mice. PAUL C. STEIN and PAUL F. BASCH		862
EXPERIMENTAL		
Infectivity of <i>Plasmodium simium</i> to <i>Atous trivirgatus</i> Monkeys and Different Anophelines. WILLIAM E. COLLINS, MCWILSON WARREN, PETER G. CONTACOS, JIMMIE C. SKINNER, and BETTYE B. RICHARDSON		870

Sporogony of <i>Sarcocystis idahoensis</i> in the Gopher Snake, <i>Pituophis melanoleucus</i> (Daudin).	BOB BLEDSOE	875
Effect of <i>Schistosoma mansoni</i> Infection on Fecundity and Perivitelline Fluid Composition in <i>Biomphalaria glabrata</i> .	D. L. LOOKER and F. J. ETGES	880
A Maceration Technique for the Study of Cytological Development in <i>Hymenolepis citelli</i> .	KAREN A. LOEHR and ROBERT W. MEAD	886
<i>Sarcocystis</i> Transmitted by Blood Transfusion.	RONALD FAYER and ROBERT G. LEEK	890
SURVEY		
Host-parasite relations of <i>Dendritobilharzia pulverulenta</i> (Trematoda: Schistosomatidae) and Anatids.	FREDERICK J. VANDE VUSSE	894
TAXONOMY		
Two New Trypanosomes from Neotropical Gekkonid Lizards.	SAM R. TELFORD, JR.	898
<i>Eimeria caprina</i> sp. n. from the Domestic Goat, <i>Capra hircus</i> , from the USA.	JOSÉ D. LIMA	902
Descriptions of Two New Didymozoids from Australian Fishes.	R. J. G. LESTER	904
Some Digenetic Trematodes from Ecuadorian Bats Including Five New Species and One New Genus.	MATTHEW E. MARSHALL and GROVER C. MILLER	909
Trematodes of Marine Fishes from South Australia. 4. <i>Harveytrema bisulcatum</i> gen. et sp. n. (Lepocreadiidae).	GÜNTHER O. W. KRUSE	918
Trematodes of Marine Fishes from South Australia. 6. <i>Monostephanostomum manteri</i> gen. et sp. n. (Acanthocolipidae).	GÜNTHER O. W. KRUSE	921
<i>Tetrapetalonema (T.) panamensis</i> (McCoy, 1936) comb. n. (Filarioidea: Onchocercidae) in Colombian Primates, with a Description of the Adults.	J. H. ESSLINGER	924
<i>Dipetalonema (Acanthocheilonema) didelphis</i> sp. n. (Nematoda: Filarioidea) from Opossums, with a Redescription of <i>D. (A.) pricei</i> (Vaz and Pereira 1934).	J. H. ESSLINGER and JEFFREY L. SMITH	928
SOCIETY BUSINESS		
Sixty-ninth Council Meeting Minutes.	CLAYTON R PAGE, III	934
Fifty-fourth Annual Business Meeting Minutes.	CLAYTON R PAGE, III	950
IN MEMORIAM		
In Memoriam: Ernest Carroll Faust.	PAUL C. BEAVER	956
Theodore Louis Jahn: One Student's View.	GEORGE G. HOLZ, JR.	958
BOOK REVIEWS		
Handbook of Shrimp Diseases, by S. K. Johnson.	THOMAS C. CHENG	869
Crawfish and Freshwater Shrimp Diseases, by S. K. Johnson.	THOMAS C. CHENG	874
RESEARCH NOTES		
A Technique for Purification of Microfilariae of <i>O. volvulus</i> .	BRUCE M. GREENE and EVERETT L. SCHILLER	861
Use of Immunologic Techniques to Detect Chemotherapeutic Success in Infections with <i>Fasciola hepatica</i> . III. Comparison of Counterelectrophoresis and Indirect Hemagglutination in Infected Rabbits.	GEORGE V. HILLYER and DOROTHY ALLAIN	960
The In Vitro Effects of Actinomycin-D on the Gastrodermis of <i>Schistosoma mansoni</i> Schistosomules.	B. J. BOGITSCH	964
Clearance of Microfilariae of <i>Dipetalonema viteae</i> in CBA/N and CBA/H Mice.	JAMES P. THOMPSON, RICHARD B. CRANDALL, CATHERINE A. CRANDALL, and JOHN T. NEILSON	966
Artificial Hatching and Culture of <i>Toxocara canis</i> Second Stage Larvae.	JOHN ADAMS OAKS and STEPHEN G. KAYES	969
Studies on the Preservation and Enhancement of the Virulence of Some Strains of <i>Entamoeba histolytica</i> in Axenic and Monoxenic Cultures.	DANIEL GOLD and LOIS NORMAN	970
Hematoozoa of Lizards from Southeastern Arizona and Isla San Pedro Nolasco, Gulf of California, Mexico.	JEROME L. MAHRT	972

Development of <i>Eimeria</i> Species in Mesenteric Lymph Nodes of Goats. JOSÉ D. LIMA	976
Unusual Mixed Haemosporidan Infections in Turkey Blood Cells. MARTIN D. YOUNG, ELLIS C. GREINER, and DONALD J. FORRESTER	978
Multiplication of <i>Sarcocystis bovicanis</i> in the Bovine Bloodstream. R. FAYER	980
Nasal Schistosomiasis in Australian Anatids. DAVID BLAIR and PETER OTTESEN	982
Helminths of Shrews, <i>Blarina brevicauda</i> and <i>Sorex cinereus</i> , in Iowa. DARWIN D. WITTRICK and GARY L. HENDRICKSON	985
<i>Neoechinorhynchus paraguayensis</i> (Acanthocephala: Neoechinorhynchidae) from Brazil. BRENT B. NICKOL and TEREZINHA N. PADILHA	987
New Host and Geographical Records for the Leech <i>Acanthobdella peledina</i> Grube 1851 (Hirudinea, Acanthobdellidae). A. K. HAUCK, MICHAEL J. FALLON, and CARL V. BURGER	989
Pathology of Intratesticular <i>Brugia</i> in Jirds. ALBERT L. VINCENT, LAWRENCE R. ASH, WILLIAM A. SODEMAN, JR., and GARY E. RODRICK	990
ANNOUNCEMENTS	
Symposium on Parasite Biochemistry	841
Medical Parasitologist Wanted	885
ATCC Information and Referral Center for Protozoan Strains	889
XVth International Nematology Symposium	923
Statement of Ownership	1012
Mailing Dates for Volume 65, 1979	1012
<i>INDEX, VOLUME 65</i>	991